AMENDMENTS TO THE CLAIMS:

This listing of the claims will replace all prior versions, and listings, of the claims in this application.

Listing of Claims:

1. (Previously presented) A method for granting system access to mobile stations, comprising:

receiving a call admission request from a mobile station at the edge of a cell; and

granting system resources to the mobile station based at least in part on a bandwidth requirement of the mobile station, wherein for a mobile station having a high bandwidth requirement, the mobile station is preferentially granted system resources, as compared to another mobile station requesting call admission and_having a lower bandwidth requirement, by being assigned a plurality of time slots per frame for forming one radio information block, and is operated with a coding technique that employs an iterative decoding technique.

2. (Original) A method as in claim 1, wherein the mobile station is operated as a rate 3/4 16-QAM mobile station at a throughput of approximately Kx59.2kbps, where K is the number of occupied time slots in the frame.

3. (Original)A method as in claim 1, wherein the mobile station is operated as a rate 4/5 32-QAM mobile station at a throughput of approximately Kx78.93kbps, where K is the number of occupied time slots in the frame.

4. (Original) A method as in claim 1, wherein the mobile station is operated as a rate 5/6 64-QAM mobile station at a throughput of approximately Kx98.667kbps, where K is the number of occupied time slots in the frame.

5. (Currently Amended) A method as in claim 1, wherein ~~the~~ a modulation format is selected from one of GMSK, 8-PSK, rectangular 16 gray coded QAM, 64 gray coded QAM, and 32 cross-QAM.

6. (Original) A method as in claim 1, wherein the radio information block comprises four TDMA frames and occupies K slots per TDMA frame, wherein the radio information block size is equal to N=464 x K x throughput bits, where the throughput is equal to the number of information bits per data symbol.

7. (Previously presented) A cellular communications system, comprising:

a plurality of mobile stations located within at least one cell;

a base transceiver station (BTS) for servicing said cell;

a base station controller (BSC) coupled to said BTS; and

a Call Admission processor coupled to said BTS for receiving a call admission request from mobile stations located in the cell served by said BTS, said processor granting cellular communications system resources to the mobile stations based at least in part on level of service required by the mobile stations and on a location of the mobile stations within the cell, wherein for a mobile station having a high bandwidth requirement that is determined to be located at the edge of the cell, the mobile station is preferentially granted system resources , as compared to another mobile station requesting call admission and having a lower bandwidth requirement, by being assigned a plurality of time slots per frame for forming one radio information block, and is operated with a coding technique that employs an iterative decoding technique.

8. (Original) A cellular communications system as in claim 7, wherein the mobile station is operated as a rate 3/4 16-QAM mobile station at a throughput of approximately Kx59.2kbps, where K is the number of occupied time slots in the

frame.

9. (Original) A cellular communications system as in claim 7, wherein the mobile station is operated as a rate 4/5 32-QAM mobile station at a throughput of approximately Kx78.93kbps, where K is the number of occupied time slots in the frame.

10. (Original) A cellular communications system as in claim 7, wherein the mobile station is operated as a rate 5/6 64-QAM mobile station at a throughput of approximately Kx98.667kbps, where K is the number of occupied time slots in the frame.

11. (Currently Amended) A cellular communications system as in claim 7, wherein ~~the~~ a modulation format is selected from one of GMSK, 8-PSK, rectangular 16 gray coded QAM, 64 gray coded QAM, and 32 cross-QAM.

12. (Original) A cellular communications system as in claim 7, wherein the radio information block comprises four TDMA frames and occupies K slots per TDMA frame, wherein the radio information block size is equal to N=464 x K x throughput bits, where the throughput is equal to the number of information bits per data symbol.

13. (Original) A cellular communications system as in claim 7, wherein the iterative coding technique comprises a turbo code, said turbo code being implemented with two n-state identical recursive systematic convolutional encoders (13_8,15_8) that are combined in parallel through a pseudo-random bit interleaver.

14. (Previously presented) A method for granting system access to mobile stations, comprising:

receiving a call admission request from a mobile station;

granting system resources to the mobile station based at least in part on a bandwidth requirement of the mobile station and on a location of the mobile

station within the cell, wherein for a mobile station having a high bandwidth requirement that is located at the cell edge, the mobile station is preferentially granted system resources , as compared to another mobile station requesting call admission and having a lower bandwidth requirement, by being assigned a plurality of time slots per frame for forming one radio information block, and by being operated with a coding technique that employs an iterative decoding technique; and

monitoring changes in the location and the system resource requirements of the mobile station and varying the granted system resources accordingly.

15. (Original) A method as in claim 14, wherein a modulation format is selected from one of GMSK, 8-PSK, rectangular 16 gray coded QAM, 64 gray coded QAM, and 32 cross-QAM.

16. (Original) A method as in claim 14, wherein the radio information block comprises four TDMA frames and occupies K slots per TDMA frame, wherein the radio information block size is equal to N=464 x K x throughput bits, where the throughput is equal to the number of information bits per data symbol.

17. (Original) A method as in claim 14, wherein the coding technique comprises at least one of parallel or serial concatenated code turbo channel coding.

18. (Previously presented) A method for operating a call admission function in a cellular communications system, comprising:

receiving a call admission request from a mobile station located in a cell; and

granting system resources to the mobile station based at least in part on a bandwidth requirement of the mobile station, wherein for a mobile station having a high bandwidth requirement, the mobile station is preferentially granted system resources, as compared to another mobile station requesting call admission and having a lower bandwidth requirement, by being assigned a

plurality of time slots per frame for conveying one radio information block, and is operated with a coding technique that employs an iterative decoding technique.

19. (Original) A method as in claim 18, wherein the mobile station is located at the cell edge, and further comprising adjusting the granted system resources as the mobile station changes its location within the cell, and retaining the granted system resources as the mobile station transitions to an edge of another cell.

20. (Original) A method as in claim 18, wherein the iterative decoding technique uses a turbo code.

21. (New) A control unit coupled to a wireless transceiver in a cellular communication network, comprising a resource granting unit that is responsive to receiving a call admission request from a mobile station located near a cell edge to grant system resources to the mobile station based at least in part on a bandwidth requirement of the mobile station, where for a mobile station having a high bandwidth requirement the resource granting unit preferentially grants system resources, as compared to another mobile station requesting call admission and having a lower bandwidth requirement, by assigning a plurality of time slots per frame for forming one radio information block, and operating the mobile station with an iterative coding technique.

22. (New) The control unit as in claim 21, where the mobile station is operated as a rate 3/4 16-QAM mobile station at a throughput of approximately Kx59.2kbps, where K is the number of occupied time slots in the frame.

23. (New) The control unit as in claim 21, where the mobile station is operated as a rate 4/5 32-QAM mobile station at a throughput of approximately Kx78.93kbps, where K is the number of occupied time slots in the frame.

24. (New) The control unit as in claim 21, where the mobile station is operated as a rate 5/6 64-QAM mobile station at a throughput of approximately Kx98.667kbps,

where K is the number of occupied time slots in the frame.

25. (New) The control unit as in claim 21, where a modulation format is selected from one of GMSK, 8-PSK, rectangular 16 gray coded QAM, 64 gray coded QAM, and 32 cross-QAM.

26. (New) The control unit as in claim 21, wherein the radio information block comprises four TDMA frames and occupies K slots per TDMA frame, wherein the radio information block size is equal to N=464 x K x throughput bits, where the throughput is equal to the number of information bits per data symbol.

27. (New) The control unit as in claim 21, where the iterative coding technique comprises a turbo code, said turbo code being implemented with two n-state identical recursive systematic convolutional encoders (13_8,15_8) that are combined in parallel through a pseudo-random bit interleaver.

28. (New) The control unit as in claim 21, where the iterative coding technique comprises at least one of parallel or serial concatenated code turbo channel coding.